

Appl. No. 10/531,161
 Amdt. dated September 28, 2006
 Reply to Office Action of March 29, 2006

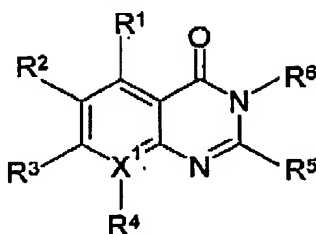
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim1 (currently amended) A compound having the chemical formula:



wherein:

R^1 , R^2 and R^3 is each independently selected chosen from ~~one of~~: H, halogen, CN, CF_3 , OCF_3 , lower alkyl, lower alkoxy, NH-acetyl, NH-lower alkyl alkyl, NH-alkylaryl, N(lower alkyl)₂, C(O)OH, C(O)O-lower alkyl, C(O)NH-lower alkyl, C(O)N(lower alkyl)₂, OH, OC(O)-lower alkyl, OC(O)-lower ~~alkylamine~~ alkylamino, OC(O)-lower alkyl-N(lower alkyl)₂, and OP(O)(OH)₂;

X^1 is chosen from: C and N, such that when X^1 is C then R^4 is optional and may be selected chosen from ~~one of~~: H, halogen, CN, CF_3 , OCF_3 , lower alkyl, lower alkoxy, NH-acetyl, NH-lower alkyl alkyl, NH-alkylaryl, N(lower alkyl)₂, C(O)OH, C(O)O-lower alkyl, C(O)NH-lower alkyl, C(O)N(lower alkyl)₂, OH, OC(O)-lower alkyl, OC(O)-lower ~~alkylamine~~ alkylamino, OC(O)-lower alkyl-N(lower alkyl)₂, and OP(O)(OH)₂;

X^4 is selected from one of: C and N;

R^5 is selected chosen from ~~one of~~: H, lower alkyl, a furyl, thienyl, styryl, pyridyl and phenyl group, wherein the thienyl, styryl, pyridyl and phenyl group is optionally substituted with 1 to 3 substituents selected chosen from: one of H, halogen, CN, CF_3 , OCF_3 , lower alkyl, NH-alkylaryl, N(lower alkyl)₂, ~~lower alkoxy~~, OH, OC(O)-lower alkyl, OC(O)-lower ~~alkylamine~~

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alkylamino, OC(O)-lower alkyl-NH-lower alkyl, OC(O)-lower alkyl-N(lower alkyl)₂, and OP(O)(OH)₂;

~~R⁶ comprises is selected from one of: H, lower alkyl, and a group comprising~~
~~-(CH₂)_n-X²-R⁷ wherein n is 0, 1 or 2, X² is O, C(O), CH(OH), lower alkyl or a single bond, and~~

~~R⁷ is an aromatic chosen from a pyridyl and a phenyl group, wherein R⁷ is optionally~~
~~substituted with 1 to 3 substituents selected from one of: H, halogen, CN, CF₃, OCF₃,~~
~~unsubstituted lower alkyl, lower alkoxy, NH-lower alkyl, NH-alkylaryl, N(lower alkyl)₂, OH,~~
~~OC(O)-lower alkyl, OC(O)-lower alkylamine, alkylamino, OC(O)-lower alkyl-N(lower alkyl)₂,~~
~~and OP(O)(OH)₂;~~

or a pharmaceutically acceptable salt or complex thereof.

Claim 2 (original) A compound according to claim 1, wherein R¹, R², R³, and R⁴ are independently selected from one of hydrogen, halogen, lower alkyl, OH and OP(O)(OH)₂.

Claim 3 (original) A compound according to claim 2, wherein said halogen is selected from one of fluorine and chlorine.

Claim 4 (original) A compound according to claim 2, wherein lower alkyl is methyl.

Claim 5 (original) A compound according to claim 2 wherein, R¹ is selected from one of hydrogen and methyl.

Claim 6 (original) A compound according to claim 2, wherein R² is selected from one of hydrogen, fluorine, chlorine, hydroxy, and methyl.

Claim 7 (original) A compound according to claim 2, wherein R³ is selected from one of hydrogen and chlorine.

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Claim 8 (original) A compound according to claim 2, wherein R^4 is selected from one of hydrogen, hydroxy, and methyl.

Claim 9 (original) A compound according to claim 1, wherein X^1 is carbon.

Claim 10 (original) A compound according to claim 1, wherein R^5 is phenyl optionally substituted with 1 or 2 hydroxy.

Claim 11 (original) A compound according to claim 1, wherein R^6 further comprises the group $-(CH_2)_n-X^2-R^7$;

wherein n is 1 or 2;

X^2 is a single bond, and

R^7 is phenyl optionally substituted with 1 or 2 halogens.

Claim 12 (original) A compound according to claim 11, wherein n is 2 and said halogens are selected from one of fluorine and chlorine.

Claim 13 (original) A pharmaceutical composition comprising a compound according to claim 1 and pharmaceutically acceptable diluent or excipient.

Claim 14 (currently amended) A method of treating a disease or disorder characterized by abnormal bone or mineral homeostasis which is treatable by increasing serum parathyroid hormone levels, comprising the administration to a subject in need of treatment thereof an effective amount of a compound according to claim 1.

Claim 15 (currently amended) A method according to claim 14, wherein the bone or mineral disorder is selected from one of osteosarcoma, periodontal disease, fracture healing, osteoarthritis, rheumatoid arthritis, Paget's disease disease, humoral hypercalcemia malignancy, and osteoporosis.

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Claim 16 (original) A method according to claim 14, wherein the bone or mineral disease or disorder is osteoporosis.

Claim 17 (currently amended) A method of increasing serum parathyroid hormone levels in mammals, which comprises the administration to a subject which may be benefited thereby in need of treatment thereof an effective amount of a compound according to claim 1 sufficient to increase serum parathyroid hormone levels.

Claim 18 (original) A method for preparing 2,3,5,6,7,8-substituted 3H-quinazolin-4-ones by reacting 2,4,5,6,7,8-substituted benzo[d][1,3]oxazin-4-ones with primary amines under microwave irradiation conditions.

Claim 19 (currently amended) ~~The A compound according to claim 1, wherein compound is~~ selected from one of:

2-(2-hydroxy-phenyl)-3-phenethyl-3H-quinazolin-4-one;
2-(2,5-dihydroxy-phenyl)-3-phenethyl-3H-quinazolin-4-one;
2-(3-hydroxy-phenyl)-3-phenethyl-3H-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-(2-phenoxy-ethyl)-3H-quinazolin-4-one;
3-[2-(4-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3H-quinazolin-4-one;
3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3H-quinazolin-4-one;
3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3H-quinazolin-4-one;
3-[2-(3-chloro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3H-quinazolin-4-one;
3-[2-(2-chloro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3H-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-[2-(4-methoxy-phenyl)-ethyl]-3H-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-[2-(2-methoxy-phenyl)-ethyl]-3H-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-(2-p-tolyl-ethyl)-3H-quinazolin-4-one;
2-(2-hydroxy-phenyl)-6-methyl-3-phenethyl-3H-quinazolin-4-one;
6-fluoro-2-(2-hydroxy-phenyl)-3-phenethyl-3H-quinazolin-4-one;

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6-chloro-2-(2-hydroxy-phenyl)-3-phenethyl-3*H*-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-phenethyl-5-phenethylamino-3*H*-quinazolin-4-one;
2-(2-hydroxy-phenyl)-5-methyl-3-phenethyl-3*H*-quinazolin-4-one;
7-chloro-2-(2-hydroxy-phenyl)-3-phenethyl-3*H*-quinazolin-4-one;
2-(2-hydroxy-phenyl)-8-methyl-3-phenethyl-3*H*-quinazolin-4-one;
6-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
6-fluoro-3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
7-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-5-methyl-3*H*-quinazolin-4-one;
3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-5-methyl-3*H*-quinazolin-4-one;
3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-6-methyl-3*H*-quinazolin-4-one;
3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-6-methyl-3*H*-quinazolin-4-one;
6-chloro-3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
6-chloro-3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-6-methoxy-3*H*-quinazolin-4-one;
3-[2-(3-fluoro-phenyl)-ethyl]-6-hydroxy-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
acetic acid 2-{6-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-4-oxo-3,4-dihydro-quinazolin-2-yl}-phenyl
ester;
3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-8-methoxy-3*H*-quinazolin-4-one;
isobutyric acid 2-{6-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-4-oxo-3,4-dihydro-quinazolin-2-yl}-
phenyl ester;
sodium salt of 6-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-
one;
8-chloro-2-(2-hydroxy-phenyl)-3-phenethyl-3*H*-quinazolin-4-one;
7-chloro-3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
7-chloro-3-[2-(2-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-(2-pyridin-3-yl-ethyl)-3*H*-quinazolin-4-one;
6-fluoro-2-(2-hydroxy-phenyl)-3-(2-pyridin-3-yl-ethyl)-3*H*-quinazolin-4-one;
2-(2-hydroxy-phenyl)-3-phenethyl-3*H*-pyrido[2,3-*d*]pyrimidin-4-one;

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3-[2-(3-fluoro-phenyl)-ethyl]-2-(2-hydroxy-phenyl)-3*H*-pyrido[2,3-*d*]pyrimidin-4-one;
3-(1,1-dimethyl-3-phenyl-propyl)-6-fluoro-2-(2-hydroxy-phenyl)-3*H*-quinazolin-4-one;
methylamino-acetic acid 2-{6-fluoro-3-[2-(3-fluoro-phenyl)-ethyl]-4-oxo-3,4-dihydro-
quinazolin-2-yl}-phenyl ester hydrochloride;
6-fluoro-2-(2-hydroxy-phenyl)-3-(2-phenyl-propyl)-3*H*-quinazolin-4-one;
6-fluoro-2-(2-hydroxy-phenyl)-3-(*R*-2-phenyl-propyl)-3*H*-quinazolin-4-one;
6-fluoro-2-(2-hydroxy-phenyl)-3-(*S*-2-phenyl-propyl)-3*H*-quinazolin-4-one; and
6-fluoro-2-(2-hydroxy-phenyl)-3-(3-phenyl-propyl)-3*H*-quinazolin-4-one
or a pharmaceutically acceptable salt or complex thereof.